



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,294	07/13/2000	Stuart J. Knowles	A-68944/ESW	4777
40461	7590	12/17/2004	EXAMINER	
EDWARD S. WRIGHT 1100 ALMA STREET, SUITE 207 MENLO PARK, CA 94025			TUGBANG, ANTHONY D	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/615,294

Applicant(s)

KNOWLES ET AL.

Examiner

A. Dexter Tugbang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 4-8, 10-18 is/are rejected.
7) ☒ Claim(s) 9 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The applicants' amendment filed on 8/17/04 has been fully considered and made of record. Upon further consideration and careful review of the prior art by the examiner, the finality of the last Office Action (Ex Parte Quayle, dated 8/11/04) is withdrawn, and PROSECUTION IS HEREBY REOPENED. Any delay in prosecution is deeply regretted.

Claim Rejections - 35 USC § 102 and 103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8 and 10-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Macy 5,522,249.

Macy discloses a method of manufacturing a tuning fork comprising: forming a pair of elongated tines (Drive No. 1 and Drive No. 2 in Figs. 4, 7 and 8), each having front and rear surfaces and are disposed symmetrically about an axis; using balancing masses or mass elements (electrodes 106, 107, 121, 122, 84, 71, 83 in Fig. 9) on the front surface of one tine and the rear

Art Unit: 3729

surface of the other tine to reduce quadrature displacement in the tines and maintain a balance in mass between the tines. Macy discloses that quadrature displacement is reduced and drive mode frequency is adjusted by removing portions of the balancing masses, or mass elements, by laser trimming (see col. 7, lines 34+). Prior to laser trimming, the balancing masses, or mass elements, can be read as being added to the tines. After laser trimming, the balancing masses, or mass elements, can be read as being adjusted, all of which is to reduce quadrature displacement, adjust drive mode frequency, and maintain a balance in mass between the tines.

It is noted that the discussion of laser trimming by Macy (at col. 7, lines 34+) substantially removes equal amounts of balancing mass, or mass element, material of the electrodes 106, 107, 121, 122, 84, 71, 83. Since the balancing masses, or mass elements, are on at least three sides, or three surfaces, of the tines (as shown in Fig. 9), removal of this mass (electrode) material would be inherently inclusive of the “opposite sides” of the tines, the “same sides” of the tines, or from the “front surface of one tine and the rear surface of the other tine”.

If applicant(s) do not believe that removing or adjusting the balancing masses, or mass elements, would inherently be inclusive of the “opposite sides” of the tines, the “same sides” of the tines, or from the “front surface of one tine and the rear surface of the other tine”, then it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Macy by removing or adjusting the balancing masses, or mass elements, in the above manner, to achieve symmetry and balance in the drive tines of the tuning fork. Macy attempts to solve his own very problem of symmetry and balance with balancing of the masses, or mass elements (electrodes) as discussed at col. 4, lines 46+.

Allowable Subject Matter


5. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


A. Dexter Tugbang
Primary Examiner
Art Unit 3729

December 13, 2004